SHOP talk

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Trouble in the City of Destiny

Electrical licensing a hot issue in Tacoma

By Bob MacKenzie

A little ditty from *The Music Man* musical comes to mind to describe a situation occurring in Tacoma, Washington.

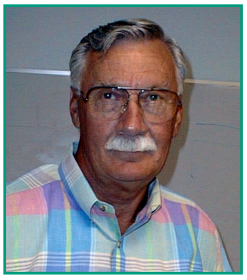
"Oh, you got trouble! Right here in River City! With a capital T and that rhymes with P and that stands for pool!" A member of the Consortium is certainly encountering trouble, but in the City of Destiny, not River City, Iowa, as in the musical. With a capital T that rhymes with E and that stands for electrical!

You see, Pierce County's facilities management staff are struggling to cope with a dilemma. On the one hand, their local utility requires that an EL-01 electrician be used for all construction and alteration work. Additionally, Tacoma's Chief Electrical Inspector can approve or deny requests for waiver of this requirement for maintenance-related work "if the employee doing the work had been trained in employer-accepted electrical maintenance programs and could answer questions regarding electrical maintenance correctly." The situation is nothing more than authority to deny permits applications, according to Pierce County facility staff. Tacoma's Ordinance No. 26519 was recently modified and reaffirmed by the Tacoma City Council, but still appears onerous to Pierce County facility staff. The requirement that electricians must hold the highest level license (EL-01) runs counter to current Revised Codes of Washington. Exemptions to such licensing requirements are permitted under RCW 19.28.610:

> **Exemptions from RCW 19.28.510 through 19.28.620. Nothing in RCW 19.28.510 through 19.28.620 shall be construed to require that a person obtain a license or a certified electrician in order to do electrical work at his or her residence or farm or place of business or on other property owned by him or her unless the electrical work is on the construction of a new building intended for rent, sale, or lease...The licensing provisions of RCW 19.28.510 through 19.28.620 shall not apply to: (1) Persons making electrical installations on their own property or to regularly employed employees working on the premises of their employer, unless the electrical work is on the construction of a new building intended for rent, sale, or lease;...**

"We are looking at the legality of this type of ordinance," said Janet Lewis, L&I's Chief Electrical Inspector. Lewis has presented electrical requirements programs for the Plant Operations Support Consortium in two previous videoconferences and serves as the Consortium's electrical subject matter expert.

Pierce County maintenance staff and other Consortium members located within the City of Tacoma boundaries are required to follow Tacoma's ordinance. The requirements for an EL-01 licensed electrician to complete maintenance and public construction electrical work is far more burdensome than those requirements outlined in the Revised Code of Washington. This has facility managers cringing at the effects on their staff and the tenants they serve, and about added costs to the taxpayers.



Dick Zierman
Facilities Maintenance Superintendent, Pierce County Department of Facilities Management.

"If the Chief Electrical Inspector of the state of Washington does not require all electrical work to be completed by electricians with an EL-01 license elsewhere in the state, why should the City Electrical Inspector single us out?" said Dick Zierman, facilities maintenance superintendent for Pierce County's Department of Facilities Management. "We will have to add another full time equivalent position just so we can comply with the new ordinance, and frankly, we don't have the money in our budget to fund a full-time electrician nor do we have the work load to justify one."

Please see Electrical, page 8

INSIDE

POS Notes

By Bob MacKenzie, Manager

At times we need to slow the "facilities train" down long enough to pat ourselves on the back for jobs well done. Thanks to one of our newest members — the University of Washington — a number of POS members benefited from unused building materials. Building materials worth more than $1.4 million were distributed to school districts, ports, one city, state agencies and non-profit organizations resulting in enormous savings. Scott Adams served as Consortium staff materials coordinator and worked 10-hour days at the old Sandpoint Naval warehouse in Seattle to identify, catalogue and distribute the huge inventory. Well done!

The Consortium benefited from more than $1.4 million in new building materials.

Welcome to The Evergreen State College. We're happy to report The Evergreen State College has joined the ranks of the Consortium. Michel George is the College's Director of Facilities. He and his staff bring significant technical and professional depth and experience to the Consortium and we thank them for climbing on board! Another new member is the Municipality of Peel, in Ontario, Canada. We look forward to supporting our neighbors to the Northeast! And, we welcome back the State of Alaska, City of Tukwila, Liquor Control Board, Military Department, School for the Deaf, Washington State Patrol, Departments of Transportation and Social and Health Services, Port of Ridgefield, Highline Community College, and the University Place, Enumclaw, Mukilteo and Peninsula School Districts!

Old UPS Law School is Source for Scores of Bookcases. Perhaps not as glitzy as the UW materials inventory, but just as useful, was a surplus opportunity made available to the Consortium by the good graces of Duncan Crump, Facilities Asset Manager for the Department of General Administration. Hundreds of abandoned bookcases, shelving units and other pieces of furniture were quickly secured by dozens of POS members for use at their facility sites. This project demonstrated flexibility and quick response from many POS members. Thank you, Duncan, and all who made this a success.

The best for last. We're proud to add Charles (Charlie) Hicks, Sr. to the respected roles of Honorary Lifetime Members of the Plant Operations Support Consortium.

"This is recognition not given lightly and Charlie's impact on the facilities maintenance field fully supports the nomination," said John Lynch, acting assistant director for GA's Engineering and Architectural Services. Charlie retired on October 29th from the Washington Corrections Center in Shelton after more than 20 years career with Washington state. He was raised in Shelton, Washington and attended high school there. He joined the U. S. Navy in 1955 and served over 24 years in Aviation engineering and mechanics and retired as a Chief Petty Officer.

After discharge from the Navy Charlie worked briefly for the San Diego Job Corps Center as the Utilities and Logistics Supervisor but decided that he had been away from the area he loved long enough. In 1979 he returned to his hometown of Shelton and began his employment with the State of Washington as a Correctional Officer at the Washington Corrections Center.

Charles Hicks, Sr.
Honorary Lifetime Consortium Member

Charlie did not stay in uniform long. His skills as a technician were recognized early, which led to his first promotion to a Construction and Maintenance Supervisor at the Corrections Center. Within five years Charlie was promoted to Plant Manger 3 and in charge of the entire maintenance and construction program for the 400-acre Corrections Center plant.

During his years with DOC Charlie has been recognized by all levels of his agency and state government for the quality of his work and his dedication to the state. "He is one of those experienced staff members that everyone respects, appreciates and regrets to see leave," said Jim Blodgett, WCC superintendent. "Charles Hicks Sr. will be missed."

Congratulation, Charlie. It's been great working with you. And, to all POS members, thanks for making this "family of public facility managers" a functioning support apparatus that works. Have a great fall and a safe and warm holiday season!

Bob

The Plant Operations Support Consortium

New members appear in green and renewing members are listed in gray type. Welcome and thanks on behalf of the Consortium!

School Districts
Anacortes
Cascade
Chehalis
Clover Park
Columbia-Burbank
Coquitlam, BC
Delta, BC
Eatonville
Enumclaw
Federal Way
Issaquah
Ketchican, AK
Marysville
Methow Valley
Mission, BC
Mukilteo
Northshore
North Thurston
Oak Harbor
Ocean Beach
Peninsula
Rochester
Sequim
Snohomish
University Place
Wenatachee
White River
Wishkah Valley

Universities/Colleges
Bellevue CC
Big Bend CC
Clark College
Columbia Basin
Highline CC
Lower Columbia CC
Renton TC
Spokane, Dist. 17
The Evergreen State College
Univ. of Washington

Municipalities
City of Bonney Lake
City of Tukwila
Clark County
Kitsap County
Lewis County
Pierce County
Whatcom County

Canada
Attorney General
Municipality of Peel, ON

Ports
Port of Anacortes
Port of Edmonds
Port of Ephrata
Port of Longview
Port of Ridgefield
Port of Sunnyside

States
Alaska
Idaho Dept. of Admin.
Oregon
Utah

Washington State Agencies
Corrections
Ecology
General Administration
Health
Information Services
Liquor Control Board
Military
Parks & Recreation
School for the Deaf
Social & Health Services
Transportation
Veterans Affairs
Washington State Patrol

Washington State's ADA Pool Fund -- A Primer

By Carol Maher, Barrier Free Facilities Program Manager

No, the state is not building a swimming pool. State agencies have pooled their money for barrier-removal to make older state facilities accessible. The name of the fund is somewhat misleading. WAC 51-40 of our state building code requires barrier removal, as does the ADA (Americans with Disabilities Act). This fund was created to fulfill state law, not just to satisfy a federal mandate. More importantly, the fund makes sense, because making services accessible is important to the state, the merchant, the county and the city. I have read that crack houses are generally very accessible--they build ramps and accessible entrances so even people with disabilities can utilize their services, whether legal or not!

How important is it to you for people with disabilities to access your services and your facilities? Statistics show that one of five Washingtonians has a disability. Of course, they are not all in wheel chairs: they may have strokes, cancer, heart, or respiratory problems and a myriad of other physical complications. When people can't open the door to your facility or climb the steps, they feel unwanted. It is the same as saying, "People with disabilities are not welcome here," or "Enter from the back of the building, please".

When people can't open the door to your facility or climb the steps, they feel unwanted. It is the same as saying, "People with disabilities are not welcome here," or "Enter from the back of the building, please".

So, do you need funding help to achieve access at your facility? A system like the state ADA Pool Fund may work for you. The first biennium it was developed, the fund received $16 million; the next biennium $8 million, and for the past two biennia, $3 million. With improvements funded by these expenditures the state is getting close to providing access to most of its buildings. It is important to note here that this access is not up to new building standards. The state provides access to their programs and services as required by law.

This year the fund received over $10 million in requests for the $2 million in the Pool for facilities. The funding primarily goes to ramps, entrances, restrooms and pathways to service centers, training rooms and classrooms. Door knobs are changed to lever handles on these pathways, not in the entire building. When other door knobs need replacing they are changed out to lever handles. When ramps and sidewalks need repair, funding comes from maintenance, not the ADA Pool Fund. Remodels include barrier removal, and the ADA Pool Fund does not fund any changes in buildings that are to be remodeled within two years. The other $1 million was for outdoor projects selected by the Department of Natural Resources and the Parks and Recreation Commission. The ADA Pool Fund Committee is made up of people from ten different agencies, and people with varying disabilities. People who have a disability are vital to the team, because they can provide a practical, sensible approach to changes necessary. For example, five members of the ADA Pool Fund Committee who use different types of wheelchairs informed the group that a cup dispenser by drinking fountains works as well as an accessible drinking fountain. This information saved the fund thousands of dollars in requests to change out drinking fountains. A cup dispenser is much less expensive.

If you are with a city, county, or school district, you might think about creating an ADA Pool Fund. Talk with your funding source; the state has been able to meet federal and state requirements for a relatively small amount of money. If you have any questions on how this system works, please contact Carol Maher at (360) 902-7210 cmaher@ga.wa.go . The City Council of Bellingham is thinking about this approach--how about your agency, city, county or school district?

So, are you ready to dive into the pool? Your facility will become more serviceable if it is accessible to all. And a serviceable facility is the pride of all maintenance personnel.

Shop Talk is a quarterly publication of the Plant Operations Support program. The newsletter is intended to be an informative and operationally-oriented medium for public facilities managers. Contents herein are also available on the program's web site at **www.ga.wa.gov/plant**

We welcome feedback on the newsletter's contents and input from readers. We reserve the right to edit correspondence to conform to space limitations. Bob MacKenzie is program manager and editor (360) 902-7257 or e-mail bmacken@ga.wa.gov. Karen Purtee serves as editorial assistant. Special thanks to Susanne Wegner for editing assistance. Plants Operations Support does not make warranty or representation, either expressed or implied, with respect to accuracy, completeness or utility of the information contained herein. Plants Operations Support assumes no liability of any kind whatsoever resulting from the use of, or reliance upon, any information contained in this newsletter.

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Online Refrigerant Decontamination Reduces Energy Costs

New online technology saves energy dollars and prevents refrigerant-side chiller damage

By Wes Sutton, Hudson Technologies

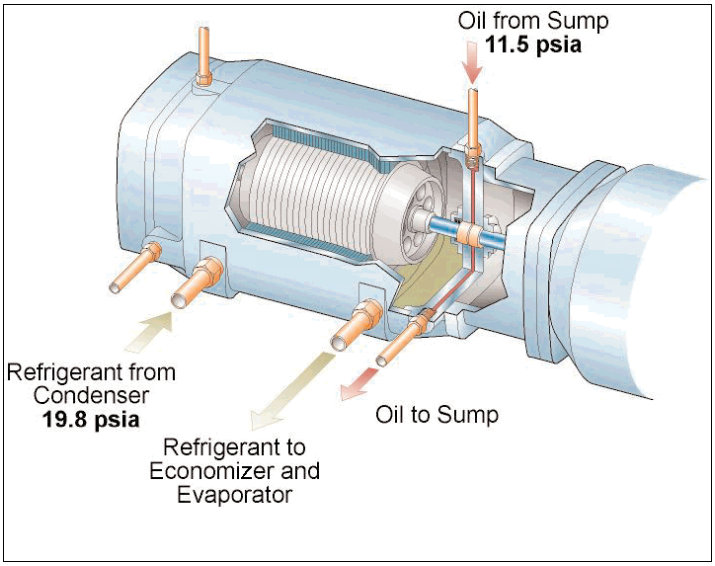
"Increased energy use" is not a popular phrase with facility managers responsible for the maintenance of large comfort cooling chillers. "Down time" is even worse. Unfortunately, three refrigerant contaminants – moisture, oil, and rust – have recently been discovered to contribute more to reduced performance, increased energy use, and catastrophic downtime than previously thought.

Fortunately, a new technology has been developed that solves the contamination problems on the refrigerant side of comfort chillers without any down time. These online decontamination techniques developed by Hudson Technologies of Pearl River, New York, center around a patented decontamination system that relies on distillation technology and online monitoring to remove oil, moisture, and particulates from refrigerant.

Named the ZugiBeast® after it's inventor and company CEO, Kevin Zugibe, this system was originally designed for high-speed on-site recovery and reclamation. But requests from facilities managers for online services led Hudson engineers to develop new applications for their technology.

Moisture decontamination – the most difficult challenge

While moisture invades the refrigerant side of a chiller in many ways, slow tube leaks are the most common source. Once mixed with refrigerant, moisture creates damage in many ways. Recent independent studies indicate that in amounts as small as 50 ppm it will combine with lubricating oil in the compressor to form acids that attack the motor windings, eventually leading to burnout. Moisture will also remove copper ions from tubing and deposit them on bearing surfaces, causing them to seize. If there is oil already present in the refrigerant, moisture will combine with it to create an acidic sludge that blocks oil flow passages, pits polished surfaces, and restricts metering devices. These problems are even greater with the new alternative refrigerants because of their capability to absorb larger quantities of water. R-134a, for example, can hold more than 18 times as much moisture as R-12. Clearly, moisture is the most dangerous of all common contaminants. Conventionally, the presence of moisture on the refrigerant side of a chiller has been dealt with in one of two ways. If the leak was serious, the cooling system was shut down and repaired. If the leak was minor, the system was kept on line until the cooling season was over and repairs could be made. The result of the second method was increased energy costs and possible internal damage to the chiller. Online moisture removal eliminates increased operating costs without interruption of service.



A hospital's comfort level maintained with online decontamination

In one recent case, the new online decontamination technology was used to handle a more serious leak. A major hospital in Oklahoma had ordered two new chillers and removed one of their older systems in preparation. But the new chillers wouldn't be delivered for six weeks and the one remaining system had begun to perform poorly. The manufacturer was called in, detected moisture in the refrigerant and called Hudson to perform online removal of the moisture. The contractor installed fittings and Hudson technicians connected the ZugiBeast. They primed the decontamination system with refrigerant and circulated the chiller's refrigerant through the ZugiBeast. All significant moisture was removed in less than 24 hours. But a check of the refrigerant two weeks later indicated the moisture had already returned to unacceptable levels. What had been thought to be a slow tube leak was much more serious.

The normal response would be to hire a rental chiller for the four remaining weeks. But the facilities manager wanted to protect the patients from the noise associated with a rental chiller operating in the parking lot. He also wanted to avoid the expense.

A second plan was suggested by the service contractor. They offered to use the new online technology and operate it like a dialysis system until the new chillers arrived. The hospital accepted the idea and technicians ran the system online for four weeks, keeping moisture levels to a minimum and conserving energy. When the new chiller had been installed, the old system was shut down and removed. The operation prevented inconvenience to the patients and saved on rental chiller costs.

Online rust removal prevents internal damage

Rust usually develops when a system with moisture on the refrigerant side is decommissioned for a long period of time. Rust and other particulates can create serious problems including…

- Premature wear
- Clogging of restrictions, metering devices, oil lines, and filters
- Reduced efficiency

Particulates present difficult removal problems. Rust is particularly difficult because it adheres to interior surfaces. The online decontamination technology uses the chiller's own refrigerant to scrub away surface rust, circulating the refrigerant through the decontamination system, removing the flakes, and returning the refrigerant to the chiller. The procedure can usually be done in less than 24 hours, eliminating costly downtime and restoring efficiency.

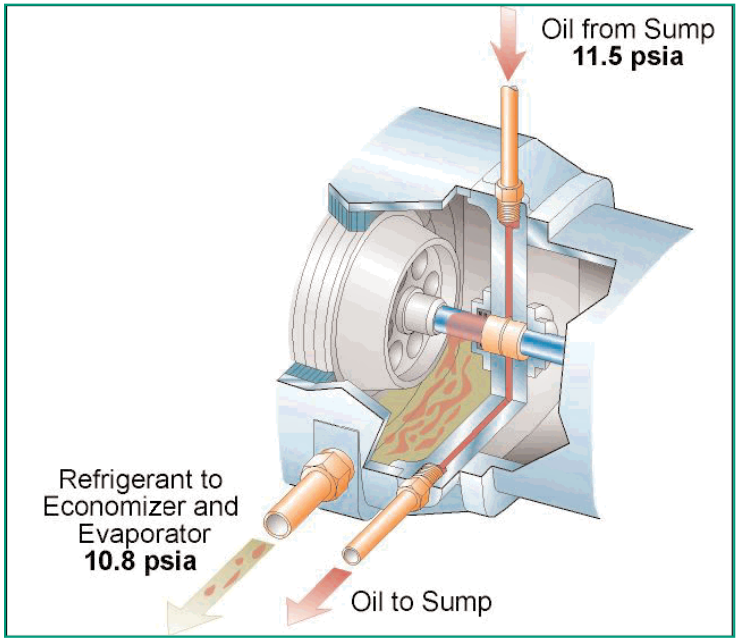
Combined online/offline decontamination restores chiller efficiency

An R-123 chiller in Omaha had experienced ruptured tubes and had been shut down with moisture still on the refrigerant side. A backup chiller had been brought online, but it now needed repairs. Naturally, rust had formed and was clinging stubbornly to interior surfaces. The service contractor realized that the traditional method of installing and replacing filters would leave the rust in the system too long and cause intermittent operating problems. He decided to try the new decontamination technology.

Because it was relatively cool and there was not a heavy load on the chiller, engineers suggested a combination online/offline decontamination. First they connected the system to the chiller and primed it with R-123. Then they circulated the refrigerant through the chiller, using its natural scrubbing action to remove rust flakes from interior surfaces as the chiller continued to cool. Next they shut down the chiller, removed the refrigerant, and replaced it with a fresh charge – a procedure that only took two to three hours. As the new refrigerant circulated online, the first batch was decontaminated off line. After three repetitions, the refrigerant in the chiller showed no traces of rust and the system operated at peak efficiency.

Online oil removal restores efficiency, saves energy costs

Although lubricating oil on the refrigerant side does not do physical damage to a chiller, it does significantly degrade heat transfer efficiency and increase energy use. And excess oil is present in most chillers.



Lubricating oil enters the refrigerant side when hermetic chillers operate at low loads (see figures 1 and 2). At these times the pressure of the refrigerant around the compressor seals decreases, permitting oil to seep out and mix with the refrigerant. Once there, it fouls evaporator tube surfaces, reduces cooling capacity, and wastes energy. How common is the problem? ASHRAE research project 601-TRP sampled refrigerant from ten randomly-selected chillers. They found that all contained excess oil in varying amounts. The average was 13 per cent. The three chillers with the lower oil content had all been serviced and had their refrigerant recycled within the last six years. But even their excess oil levels were high enough to significantly reduce performance.

Careful monitoring of energy use can help detect the presence of oil in the refrigerant side. Once discovered, the new online decontamination technology can be used to purify the refrigerant and return the chiller to peak efficiency.

Online oil removal restores performance

A facilities manager needed help with a 10,000 pound R-11 chiller that was so heavily oil logged that even with ramped-up energy use it couldn't keep up with demand. But the client was reluctant to shut down to recover and replace the refrigerant. The service contractor suggested using the online technology. They primed the decontamination system with 200 pounds of refrigerant, connected to the chiller, and circulated the R-11 through the decontamination system and back into the chiller, simultaneously removing the oil. The job was completed in less than a day and the chiller was returned to top efficiency.

The new online decontamination technology offers cost-effective solutions to refrigerant-side contamination problems. The services are easily justified through energy savings and the need to keep chillers operating during the cooling season.

Wes Sutton is the West Coast regional service manager for Hudson Technologies, 1320 26th St. NW STE 14 Auburn, Washington, 98001. For further information, contact Wes @ (800) 355-5379, FAX (253) 887-7794

Disaster Preparedness at Washington's Capitol Campus

Emergency Response Teams Form "Operational Heart" GA's Crisis Management

By Bob MacKenzie

The Division of Capitol Facilities (DCF) of the Department of General Administration is charged with the responsibility of maintaining the 33 buildings and 4.2 million square feet that comprises the Washington State Capitol Campus in Olympia. This figure includes satellite campuses in Tumwater and Lacey. The division is staffed with approximately 241.5 employees of different specialties; and its employees work hard to "provide first class support to state agencies and nearly 17,000 campus inhabitants," said Bill Moore, division director.

"The City of Olympia and neighboring Lacey and Tumwater provide wonderful support, but we know that we need to prepare to be on our own for at least 72 hours in a true emergency, crisis or disaster," said Moore. "Additionally, we depend on division emergency response teams (ERTs) to work with first-responders in our campus buildings and surrounding grounds. These teams form the operational heart of our campus response."

The ERTs are comprised of volunteer facilities technicians who have specialized knowledge of building systems, including fire and safety. Many of the employees are also trained in urban search and rescue techniques, fire safety and first aid. ERT personnel respond to building alarms along with Olympia, Tumwater and Lacey fire units. The campus' automated building control system enhances ERT value to emergency responders.

"Fire and law enforcement responders work well with division ERT personnel," said Ron Moorehead, ERT leader. "The combination of facility expertise with fire or law enforcement professionalism creates a true synergy that's hard to beat."

Moorehead emphasizes that the division ERTs are not to be substitutes for fire or law enforcement responders. "Our teams have the intimate knowledge of building systems and the building tenants and emergency responders routinely utilize all resources to get the job done."

The ERTs also work with tenant safety committees and campus disaster planners in preparing for Year 2000 challenges and/or natural or manmade disasters. The teams function as a component of the department's and division's overall disaster preparedness plan. DCF's Emergency Response Plan is designed to effectively coordinate the use of GA and campus tenant resources to protect life and property and provide for the physical and emotional well-being of campus personnel during and following an emergency. Provisions of the plan are placed into operation whenever a campus emergency occurs which cannot be handled through normal channels. Normally the ERTs are the "point" responders for the department, said Moore.

Ron Moorehead, ERT Leader
Division of Capitol Facilities, monitors the Capitol Campus from the building automated systems center.

"The Emergency Response Team works closely with fire and law enforcement responders and provides an initial assessment for the department," said Moore. "They give us the data we need to configure an appropriate division/department response even while the team members maintain close liaison with out tenants."

Many of the campus tenants have organized disaster preparedness teams of their own, said Moorehead. "The Departments of Transportation, and Labor and Industries have highly trained response teams that can greatly assist their organizations in times of crisis. We try to work with them whenever we can to maintain close communication and operational ties."

General Administration and DCF and its ERTs recognize their primary mission is to serve the capitol campus. They are prepared to extend their resources to the region and the state, "contingent upon the availability of its personnel and facilities," said Moore.

DCF is aware of the limited response capabilities of many neighboring towns and will render assistance in times of accident or emergency, limited only by the level of its own needs and capabilities under any given set of circumstances. Further, the division cooperates with the Washington State Emergency Management Division to the maximum extent possible in emergency situations.

Please see Campus, page 8

DOT Outlines Disaster Survival Plan

Employee Survival Plan is Innovative and Practical

By WSDOT Office of Emergency Response

The Employee Disaster Survival Plan developed by the Washington State Department of Transportation is a voluntary program supported and sponsored by the Department's Management Team. The purpose of the Plan is to provide for employee emergency care, should a disaster affect the operations of the Department. The Employee Disaster Plan is complementary to the overall Department's Disaster Plan, which defines how the Department will continue to operate following a major disaster.

The Employee Disaster Survival Plan is divided into the functional areas listed below. Regardless of the type of disaster, the functions remain the same, even though different actions are taken for different types of events. For example, if fire breaks out, employees are to evacuate the building immediately. However, if earthquake strikes, employees are to drop, cover, and hold and wait until the shaking stops. Then, they are to evacuate the building.

- **Evacuation Team**- responsible for assuring employees are evacuated from the building in the safest and quickest means possible.
- **Traffic Control Team**- responsible for assuring the safety of employees after they evacuate the building. Members are responsible for the transportation of employees as needed. For example, if the Department needs to airlift building or bridge inspectors to other parts of the state, the team would secure a landing location for helicopters to arrive and depart near the building.
- **Staging Team**- responsible for coordination of temporary facilities services, such as tents to provide shelter, medical services, feeding, sanitation, etc.
- **Building Evaluation Team**- responsible for assessing the operation and safety of the Department's buildings for occupancy.
- **Search and Rescue Team**- responsible for light urban search and rescue operations. Works with first responders and provides limited technical rescue support.
- **Medical Team**- responsible for taking care of the injured and deceased.

WSDOT's Employee Response Teams train in real-world settings to remain prepared. (Photo courtesy of WSDOT).

The Department teams' first responsibility is to ensure the safety of personnel, and then to facilitate the continuance of department operations. Once the Department's needs are met, resources can be made available to support other organizations, as required. These teams meet and practice skills and updates to policy and procedure on a regular basis. Once a year the Department participates as an integral unit of the Governor's "Sound Shake" exercise in which all agencies have the opportunity to interact in a statewide earthquake drill. Each of WSDOT's teams perform their roles in the exercise, which simulates a large scale earthquake disaster. The "damaged" buildings are evacuated, injured personnel are removed and "treated", buildings are evaluated for safety to reenter, and personnel are flown throughout the state to selected sites to perform these training exercises.

Each April the Department conducts a statewide exercise to test the plan and associated procedures. The success of these exercises enables the Department to remain collectively prepared to safeguard life and property and to carry out its vital missions. The Department counts on the competency and professionalism of its employees to remain prepared to cope with natural or manmade disasters.

Electrical.

(cont. from page 1)

The reason that the City of Tacoma's electrical code is more restrictive in requiring a licensed contractor or electrician, EL-01, to perform certain electrical work, "is simply Tacoma's concern about public safety," said Chuck Gregg, Chief Electrical Inspector for the Tacoma Public Utility.

"Our Tacoma electrical inspectors were finding that a lot of electrical work performed by non-licensed employees was not in accordance with the National Electrical Code and could potentially cause serious safety problems."

According to Gregg, the licensed electrical contractor requirement has been in the Tacoma Municipal Code for at least 22 years. He said the Tacoma Municipal Code was amended several years ago to allow employees, who are licensed journeyman electricians, EL-01, to perform electrical work on the business premises of their employers. Tacoma's requirement for a licensed electrical contractor, or EL-01 licensed electrician, applies to all commercial, industrial and business premises. It is not limited to public facilities, he said.

Zierman contends that "getting electrical work completed by outside contractors was difficult even before the ordinance was modified and, due to a booming economy, it is almost impossible to receive bids now for work that is requested."

Pierce County has twice placed ads in the local newspapers seeking an EL-01 for part-time extra hire work, with no success. Gregg said the utility is "not aware of any shortage of electrical contractors or licensed electricians in this area."

Shop Talk asked Tacoma's Chief Electrical Inspector for safety statistics that might show the need for a more restrictive ordinance than exists elsewhere in Washington State.

"We do not view this as an onerous requirement, and the City of Tacoma is not in the business of gathering statistics in order to justify safety-related code provisions," said Gregg. " However, if you or the state have any statistics showing that the current exemption from the electrical contractor or EL-01 electrician licensing has not resulted in non-code or unsafe wiring being performed, we would certainly be willing to consider such statistics."

Zierman believes the ordinance change was a "power move" on the part of Gregg, "with backing from the electricians union and the State Electrical Contractors Association in an effort to force us to hire their people."

"Your speculation on this subject is as good, if not better, than our speculation," was Gregg's response.

The City of Tacoma interprets RCW 19.28.610 to permit the city to include in its electrical code a requirement that work otherwise exempt from licensing or certificate of competency under chapter 19.28 RCW be performed by persons holding particular licenses.

Pierce County contends that any requirement for licensing for work performed by its regular employees in government buildings is prohibited by RCW 19.28.210(3) and RCW 19.28.6. 10.

At press time the matter had been referred to the State Attorney General by the Office of Pierce County Prosecuting Attorney requesting an "opinion concerning the authority of a city to impose electrical licensing requirements under such circumstances." **Look for an update of the Tacoma/Pierce County electrical controversy in winter *Shop Talk*.**

Campus.

(cont. from page 6)

"The upcoming Year 2000 uncertainties have been a catalyst for better identification and training of division personnel in emergency response protocols," said Moore. "Prior development of division and ERT procedures is key to effective emergency preparedness and response, and we believe the routine use of ERTs on the campus has enhanced our capabilities."

In addition to the Division of Capitol Facilities, other General Administration components continue to upgrade their preparedness. A department disaster plan has been developed and will include table-top and field exercises on a regular basis for training. Checklists have been updated and synched with tenant and local emergency responders.

For further information about the Capitol campus Emergency Response teams or Division of Capitol Facilities, contact Bill Moore or Ron Moorehead @ (360) 753-5686.

Bill Moore, Assistant Director
Division of Capitol Facilities, GA

October Videoconference Stamped 'Professionally-Done'

Facilities Maintenance: Into the New Millenium was the topic of an October 20th videoconference and it "pushed the envelope" on technology, according to Consortium officials. The event — produced by the Plant Operations Support Consortium and sponsored by Johnson Controls — drew more than 190 participants at 15 sites and included a teleconference link with Alaska. Sites in Utah, Idaho, Wisconsin, Indiana and British Columbia linked to 10 sites in Washington state.

"A very professionally-done videoconference," said Rich DittBenner, zone coordinator in Olympia.

Alan Bigger addressed the video audience from Notre Dame University on the topic of Facilities-Related Customer Service. Lea Buburuz, from British Columbia, explained why there are no "environmentally-friendly chemicals." GA's Duncan Crump discussed ways to "squeeze the facilities nickel" and other innovative practices. Johnson Control's Cheryl White addressed preventive maintenance strategies, vibration analysis and other cutting edge programs. Videotapes of the event are available for loan to Consortium members.

The Consortium's next videoconference highlights Security - If You're Waiting for Us, You're Backing Up! The free event is scheduled for 10:00 a.m. to 12:00 Noon, Wednesday, April 19, 2000. Mark your calendars! **Contact AnneMarie @ (360) 902-7338.**